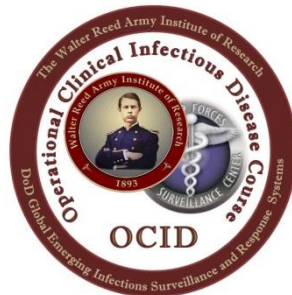




Tropical Dermatology



WRAIR- GEIS 'Operational Clinical Infectious Disease' Course



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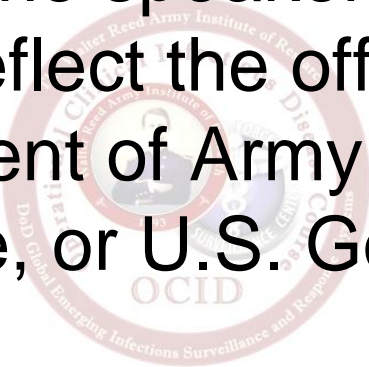
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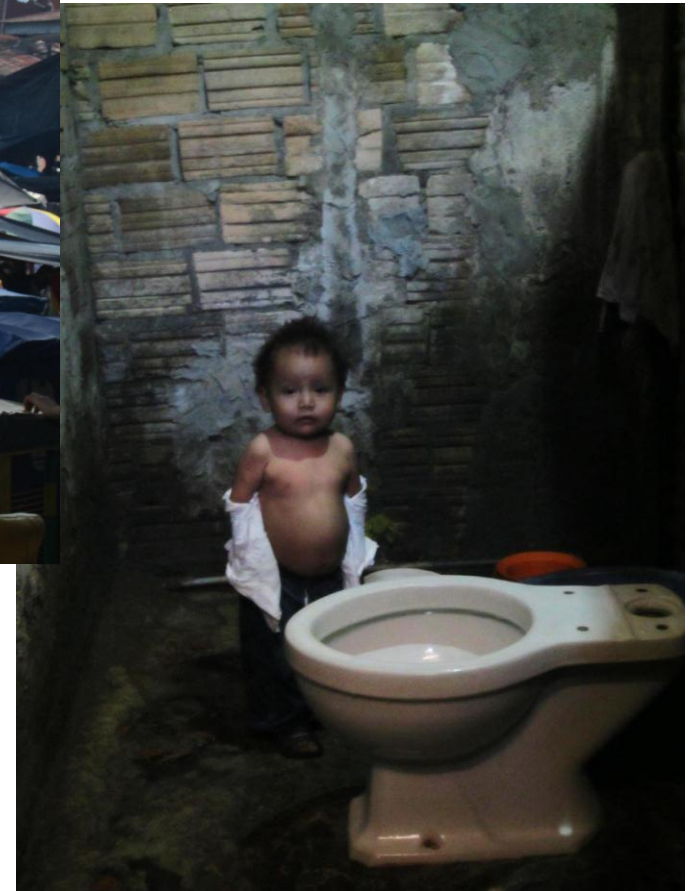




Acknowledgments

- CDR Kent Handfield
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- COL(ret) Scott Norton





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**DEPARTAMENTO DE ENFERMEDADES INFECCIOSAS
TROPICALES Y DERMATOLOGICAS**



INSTITUTO DE MEDICINA TROPICAL "ALEXANDER VON HUMBOLDT"



Leishmaniasis



Leishmaniasis

Herpes Zoster





Eczema herpeticum

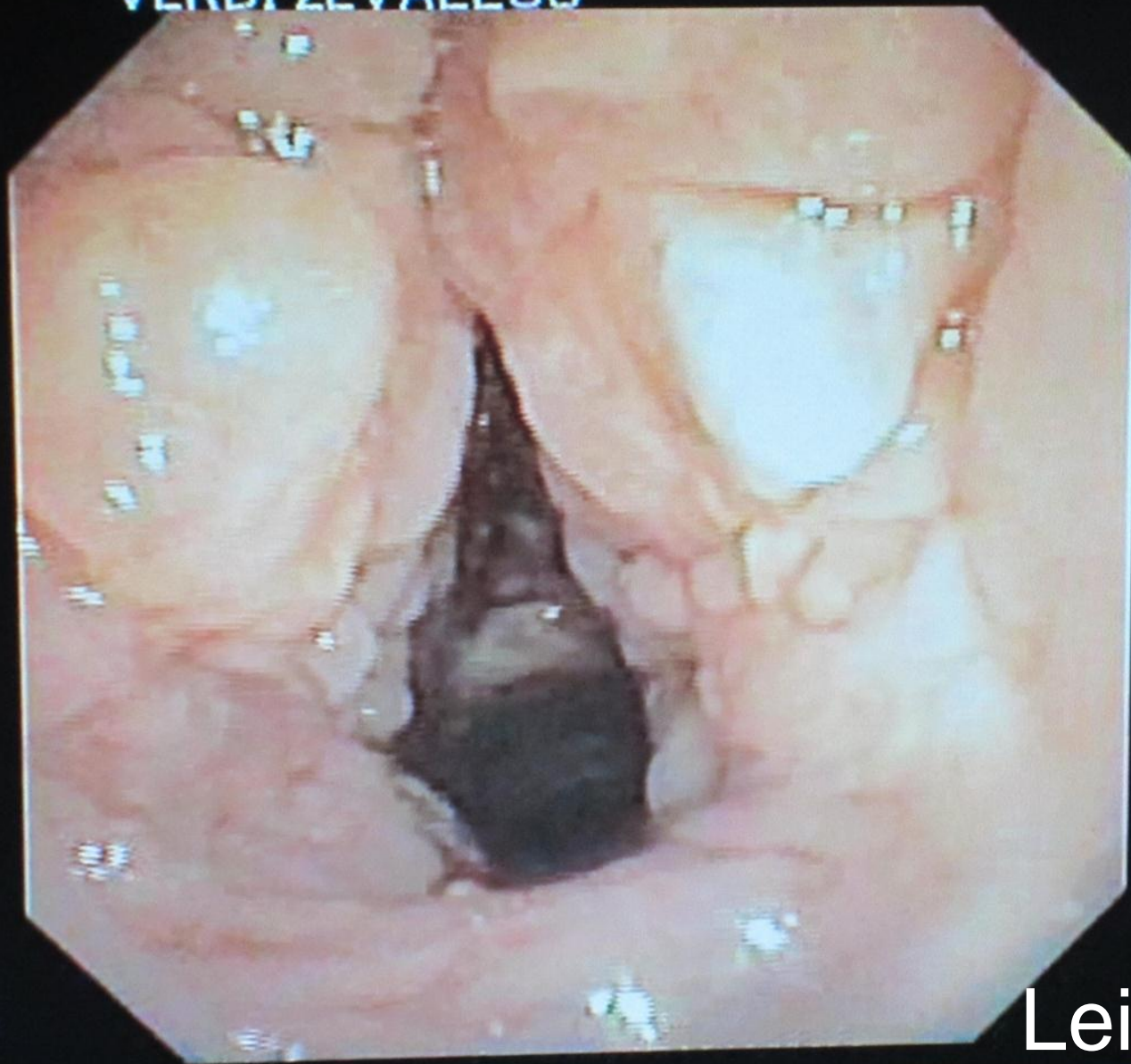


Leishmaniasis

Leishmaniasis



VERDI ZEVALLOS



Leishmaniasis

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10:34 a.m.
14/08/2013

Dermatophytosis - Tinea Corporis



Dermatophytosis - Tinea Capitis





Histoplasmos



Tropical Dermatology



. . . the skin diseases that one sees when traveling



Tropical Dermatology



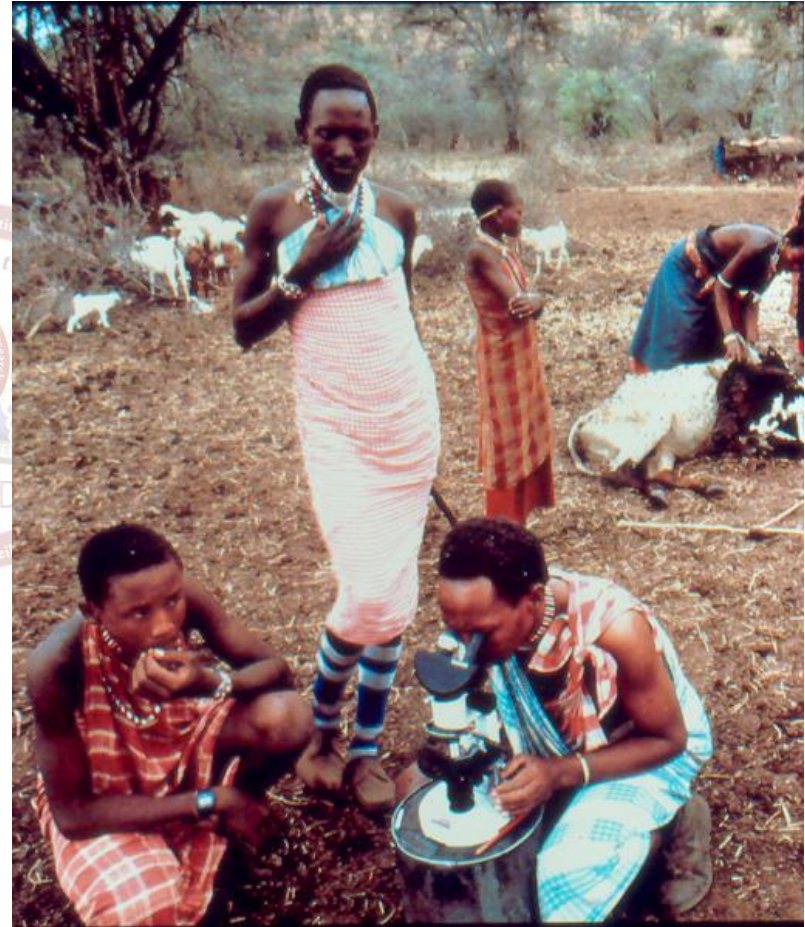
. . . and the skin diseases one sees in returned travelers



Tropical Dermatology



General dermatology
Infectious Disease



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Common dermatoses in rural, tropical, developing nations



- Eczematous dermatitis
- Infestations
- Pyodermas
- Superficial fungal infections
- Pigmentary disorders



Eczematous dermatitis





Ecematous dermatitis

- Bathing Instructions
- Lubrication is key – emollients/vaseline
- Bleach baths
- Topical steroids for flares





You have volunteered to work in a refugee camp in southern Africa.





This 32 yo woman presents with a symmetric dermatitis of the face, upper chest, and arms.



Pellagra (niacin deficiency)



Dermatitis
Dementia
Diarrhea

Treatment:

- Correct malnutrition, especially protein
- Nicotinamide 100 mg TID for several weeks (skin should improve within 24 hours)
- Correct electrolyte loss



Scabies

Intraepidermal
infestation by
*Sarcoptes
scabiei*





Child and her mother



Nodular scabies



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Scabies



- Scabies leads to secondary streptococcal infection
- Post-streptococcal glomerulonephritis is a major cause of renal failure in tropical, developing nations
- There is huge morbidity, mortality, and economic costs

Hypertension → stroke

Hematuria → anemia → poor maternal outcome

Proteinuria → hypoalbuminemia → worsens malnutrition



Pediculosis Capitis - Head Lice





Pediculosis Pubis Pubic Lice



Pediculosis Corporis - Body Lice



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Scabies / Lice

- Disinfect all clothing and bedding
- Treat entire family
- Topical Rx: Permethrin 5% cream, benzyl alcohol 5%, precipitated sulfur 10% in petrolatum, Pyrethrin
- Systemic Rx: Ivermectin 0.2 mg / kg as a single dose
- Repeat treatment (topical or systemic) in one week
- Itch can continue for weeks until the skin clears the dead mites



Bacterial Pyoderma - MRSA abscess



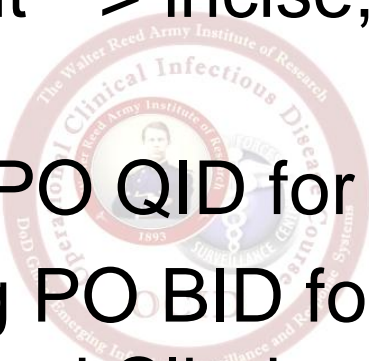
Bacterial Pyodermas





Bacterial Pyodermas

- It is probably *Staph aureus*
- If tender and fluctuant --> incise, drain, and leave open
- Dicloxacillin 500 mg PO QID for 2 weeks
- Doxycycline 100 mg PO BID for 3-4 weeks for MRSA (also Septra and Clindamycin)



Dermatophytosis - Tinea Corporis



Image Courtesy of B. Smith
Copyright © 2000 Doctorfungus Corporation



Tinea Manuum

"Two foot, One Hand"



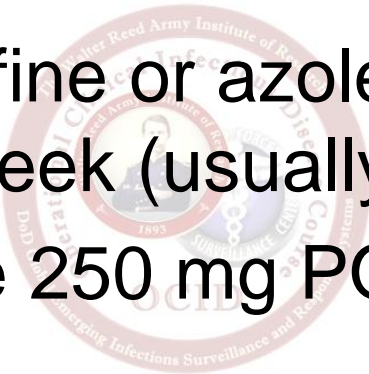
Tinea Pedis



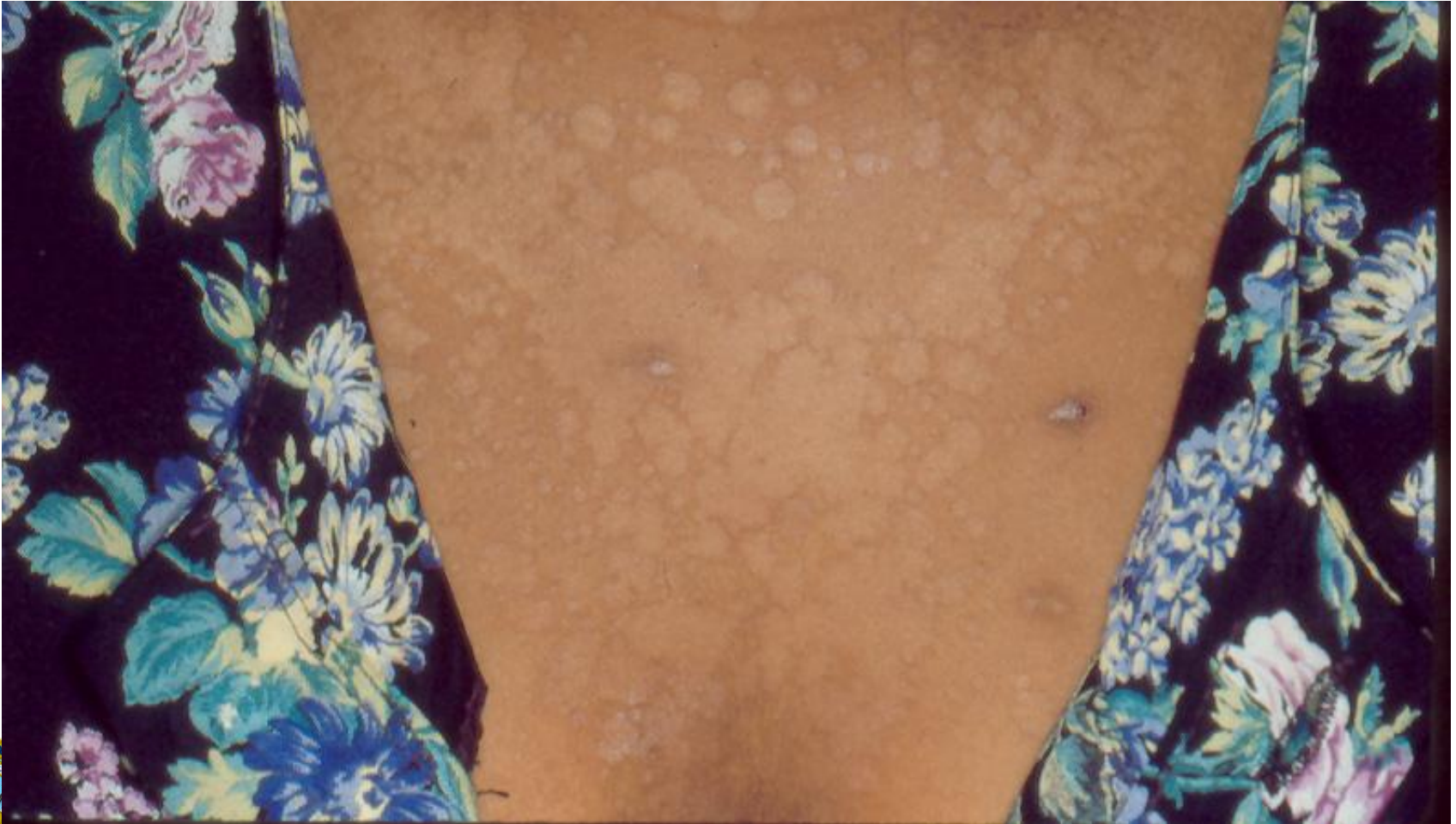


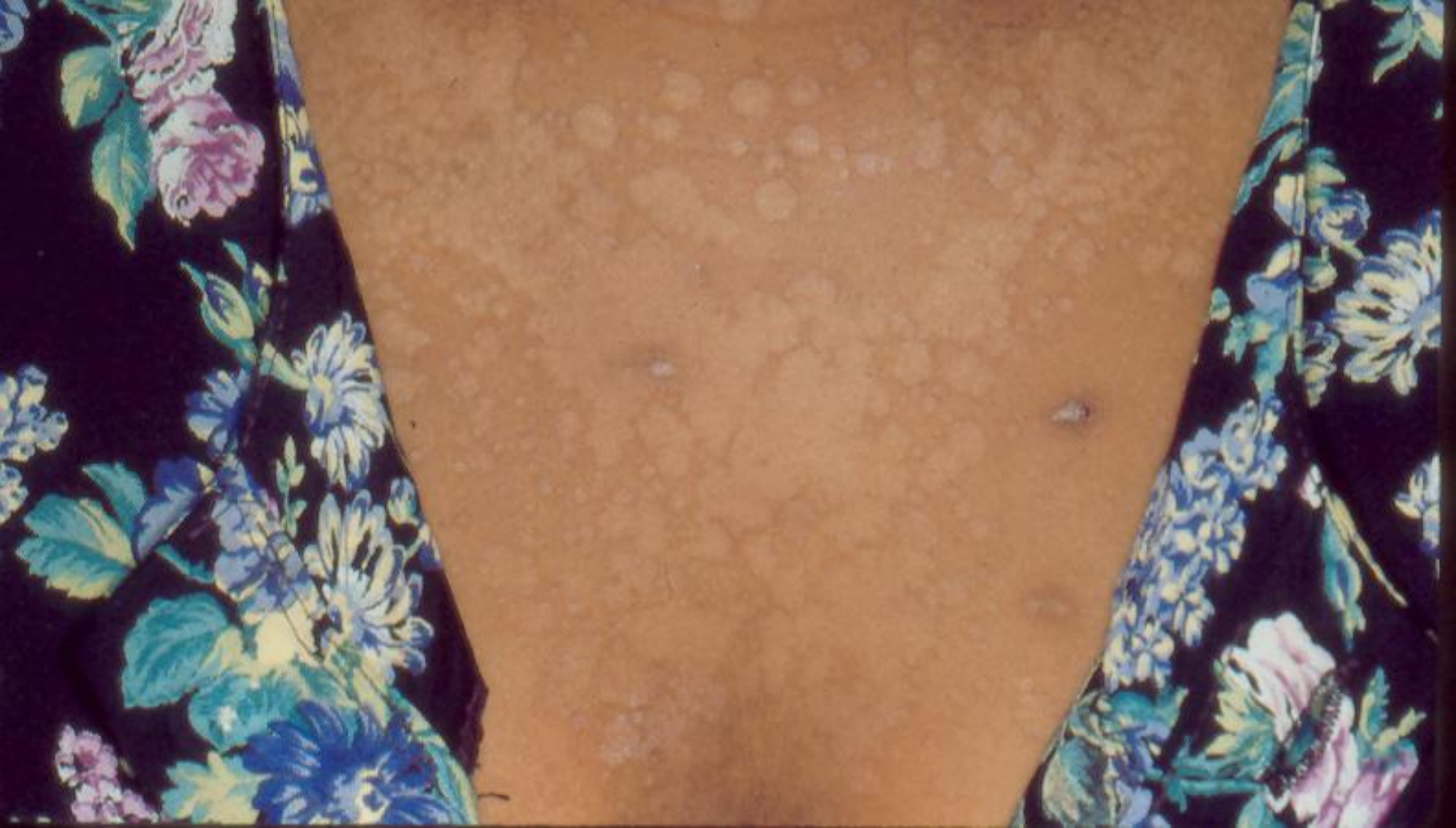
Tinea Infections

- Clinical diagnosis
- KOH if possible
- Topical terbinafine or azole BID until clear, then for one more week (usually 4-6 weeks)
- Oral terbinafine 250 mg PO daily x 10-20 days



37yo woman noticed light spots on her chest





- Tinea versicolor or Pityriasis versicolor
- Ubiquitous fungal organism (*Malessezia furfur* or *Pityrosporum ovale*)

Treat with Azoles (oral or topical), selenium shampoos



Postinflammatory hypo- and hyperpigmentation

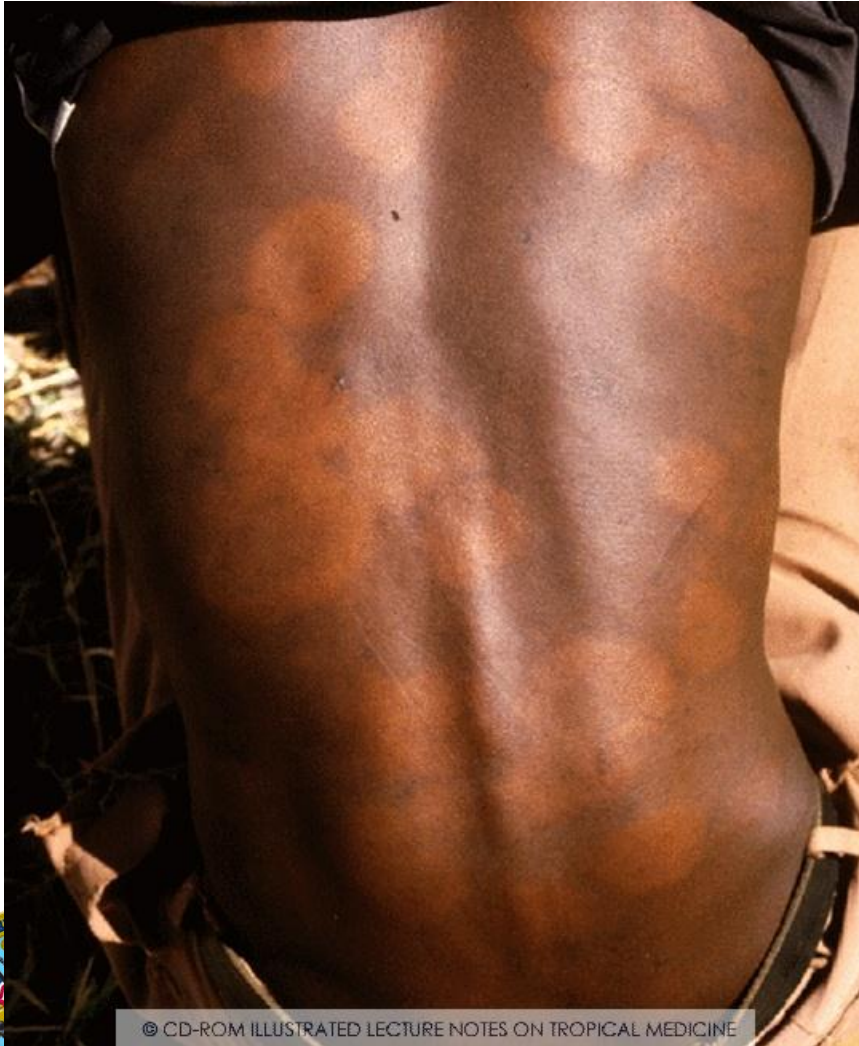




28yo Zambian
woman with
asymptomatic,
hypopigmented
plaque on thigh



Hansen's disease - Leprosy



**DO YOU HAVE
A *SPOT* ON YOUR
SKIN?**

SEE YOUR DOCTOR!

THE PROBLEM

- ▶ It may be **HANSEN'S DISEASE**.
- ▶ Hansen's Disease is caused by a bacteria (germ).
- ▶ It affects the skin and can damage the nerves.
- ▶ If Hansen's Disease goes untreated, feelings in the hands and feet will be lost.
- ▶ Bruises, ulcers and other damaged skin can result from loss of feeling.
- ▶ Other disabilities can occur.



Sensory



Motor



Auto-amputation

- Atypical mycobacterial infection of cutaneous nerves. Invades lipid-laden myelin in cooler regions of body.
- Causes motor and sensory deficits.





Ugly feet in the Tropics



Foot ulcers in the tropics



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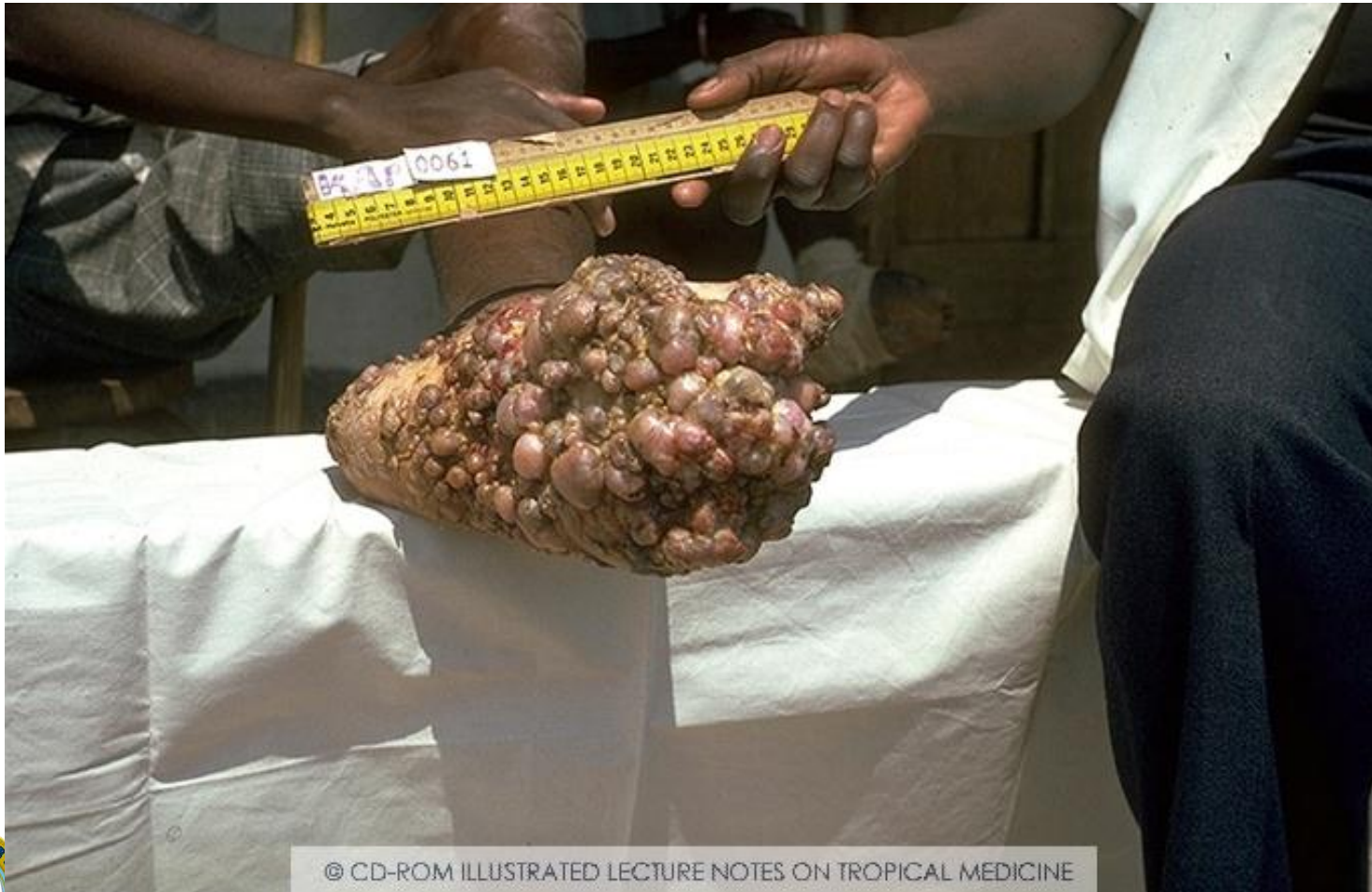


Foot ulcers in the tropics

Ecthyma
Anthrax
Malignancy
Buruli ulcer
Tropical ulcer
Diabetic ulcers
Leprotic ulcers
Sickle cell disease
Deep fungal infection
Tuberculosis



16yo boy in refugee camp, Congo/Zaire



© CD-ROM ILLUSTRATED LECTURE NOTES ON TROPICAL MEDICINE

Mycetoma

Madura foot

Mossy foot

Clinical triad

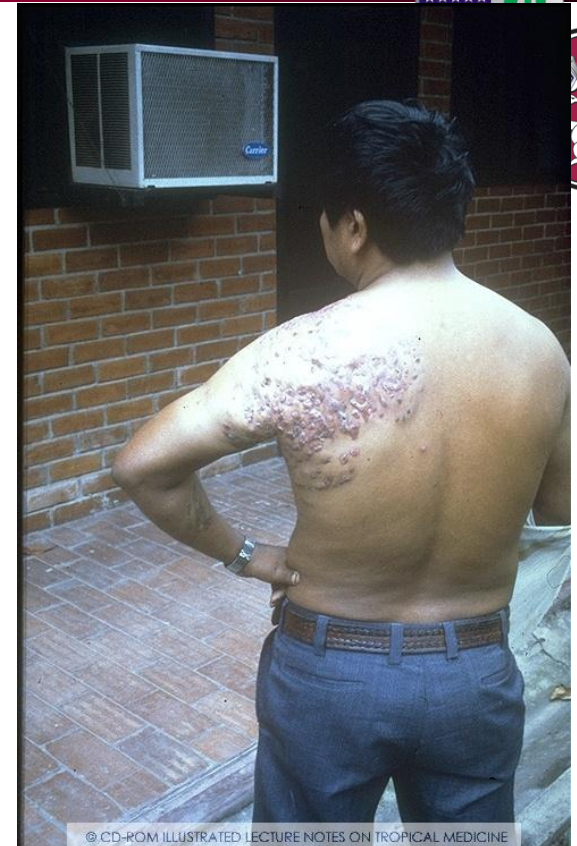
Tumefaction

Draining sinuses

Extruded grains

Etiology

True fungal (Eumycetoma) vs
bacterial (Actinomycetoma)



© CD-ROM ILLUSTRATED LECTURE NOTES ON TROPICAL MEDICINE



© Develoux, 2003





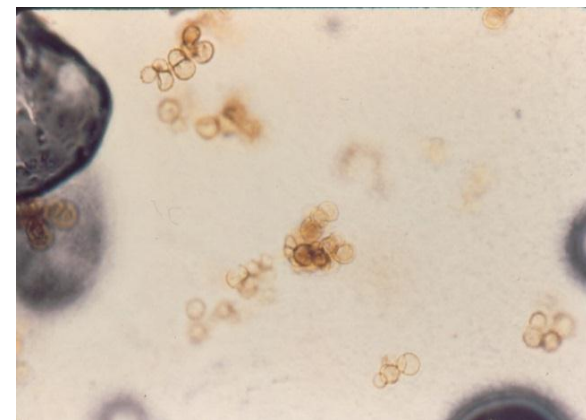
Other causes
of fungating lesions
on the legs & feet?

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Chromoblastomycosis

Several species of dematiaceous fungi



16yo boy returns home from Venezuela



Tungiasis

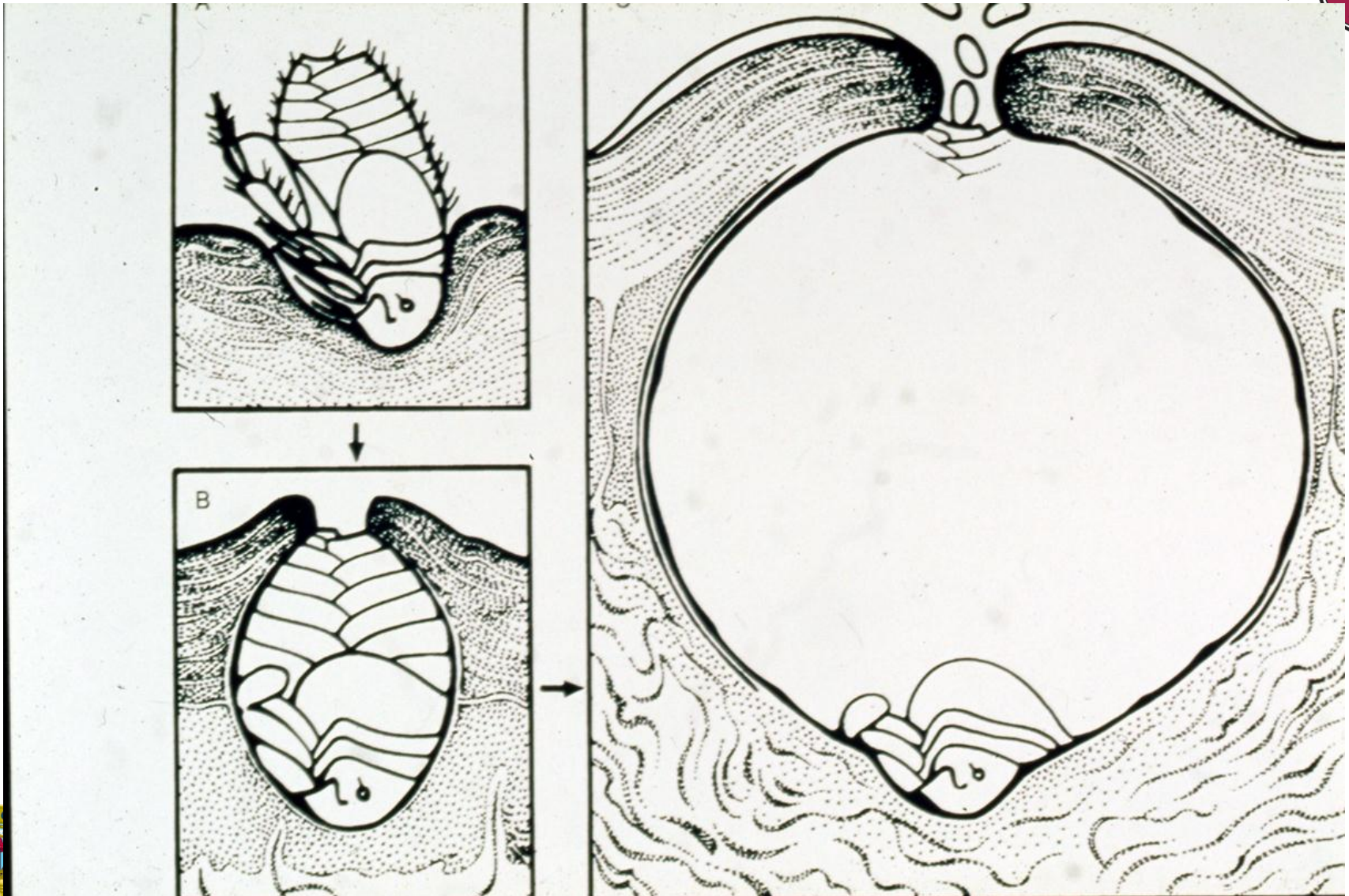
Tunga penetrans

(chigoe or jigger flea)

Embedded gravid flea



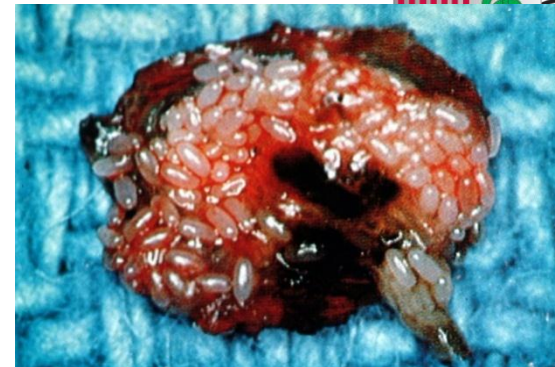
Gravid female burrows into flesh, leaving uterine pore open



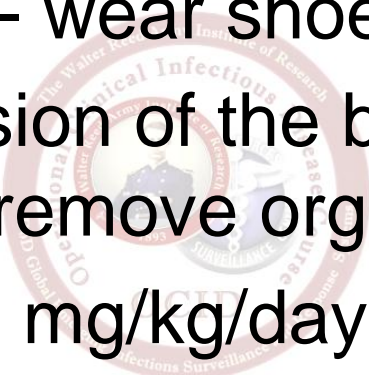
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Tungiasis

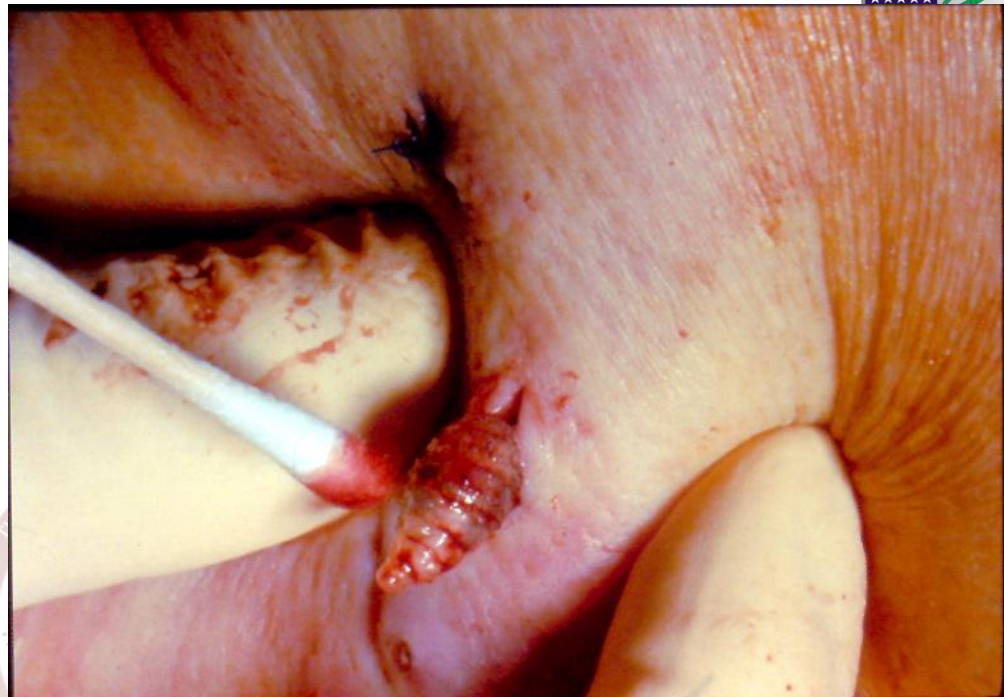


- Prevention is key - wear shoes!
- Curettage or excision of the burrow is recommended to remove organism
- Thiabendazole 25 mg/kg/day for several weeks for heavy infestation



44 yo Peace Corps volunteer returned
from Ghana with this "pimple" . . .

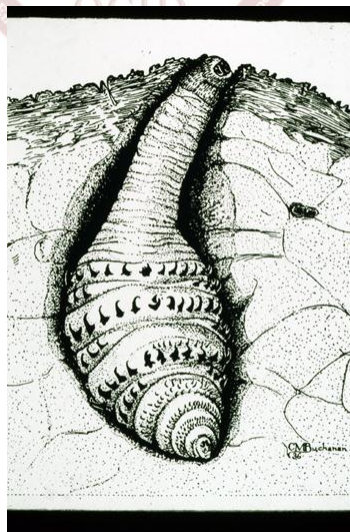




David Global

Myiasis

the infestation of human tissue by fly larvae

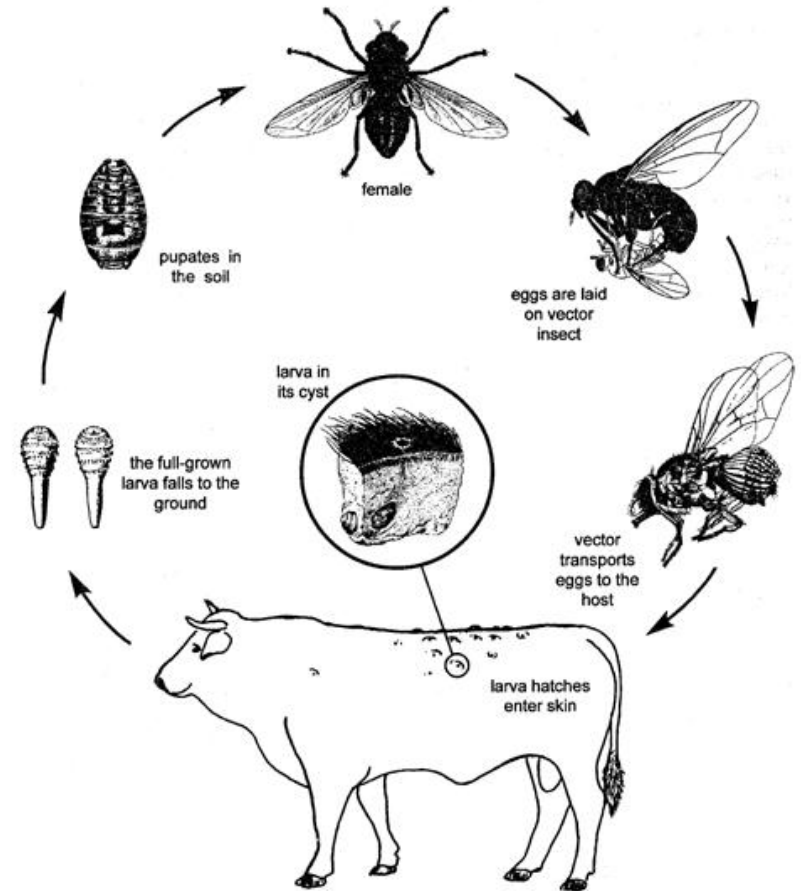




Cordylobia anthropophaga



Dermatobia hominis





Myiasis

- Incise lesion and remove larva with forceps
- Inject local anesthetic under larva to force out
- Anesthetic will paralyze the larva and make for easier extraction
- Occlude opening of breathing hole which will cause larva to migrate outwards





34 yo anthropologist
returning from a mission
in rural Laos, Cambodia,
and Vietnam.

Developed oddly-shaped
itchy rash after returning
home.





Cutaneous larva migrans

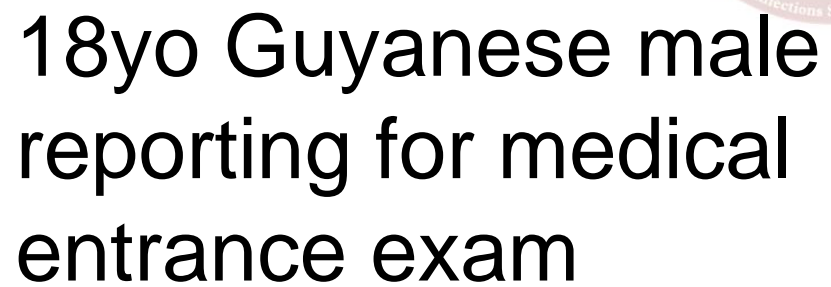
Dog hookworm

Ancylostoma Brazilense

Albendazole 400mg/day x 3 days

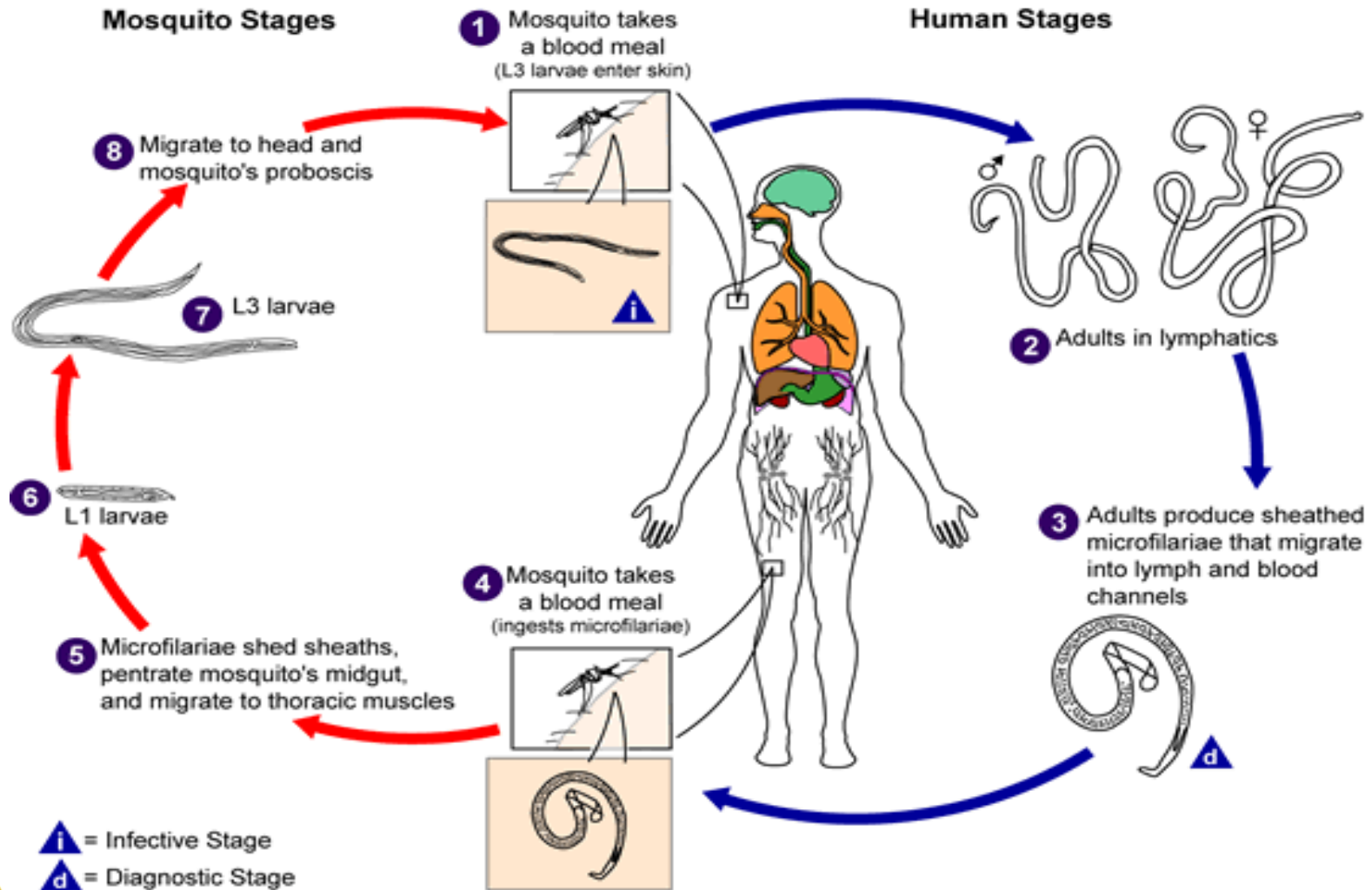
Ivermectin 0.2mg/kg single dose





Lymphatic Filariasis

Wuchereria bancrofti





Lymphatic Filariasis- Globally

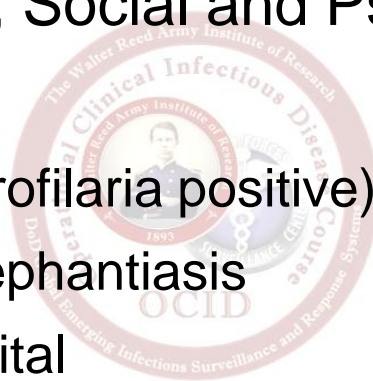
Estimated 120 million people affected

More than 80 countries endemic

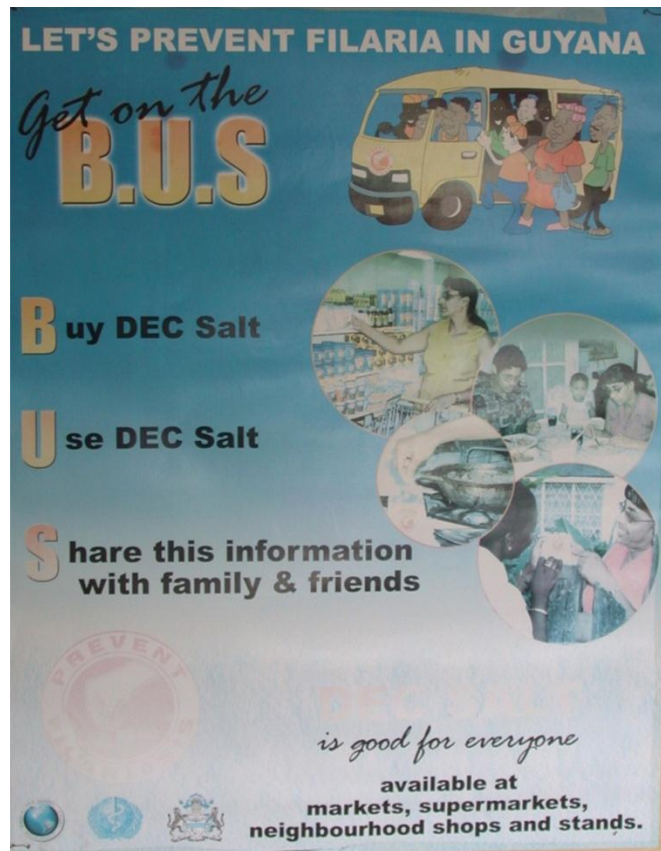
Physical, Economic, Social and Psychological Impact

Global burden

| | |
|--|------------|
| Total infected (microfilaria positive) | 45 million |
| Lymphoedema/ elephantiasis | 15 million |
| Hydrocele/ Urogenital | 25 million |
| Acute inflammatory attacks | 15 million |



Global campaign to eliminate lymphatic filariasis uses ivermectin and albendazole to treat cases. DEC Salt (diethylcarbamazine) to treat low levels of filaremia.



15yo girl complains of chronic ankle pain and swelling . . .



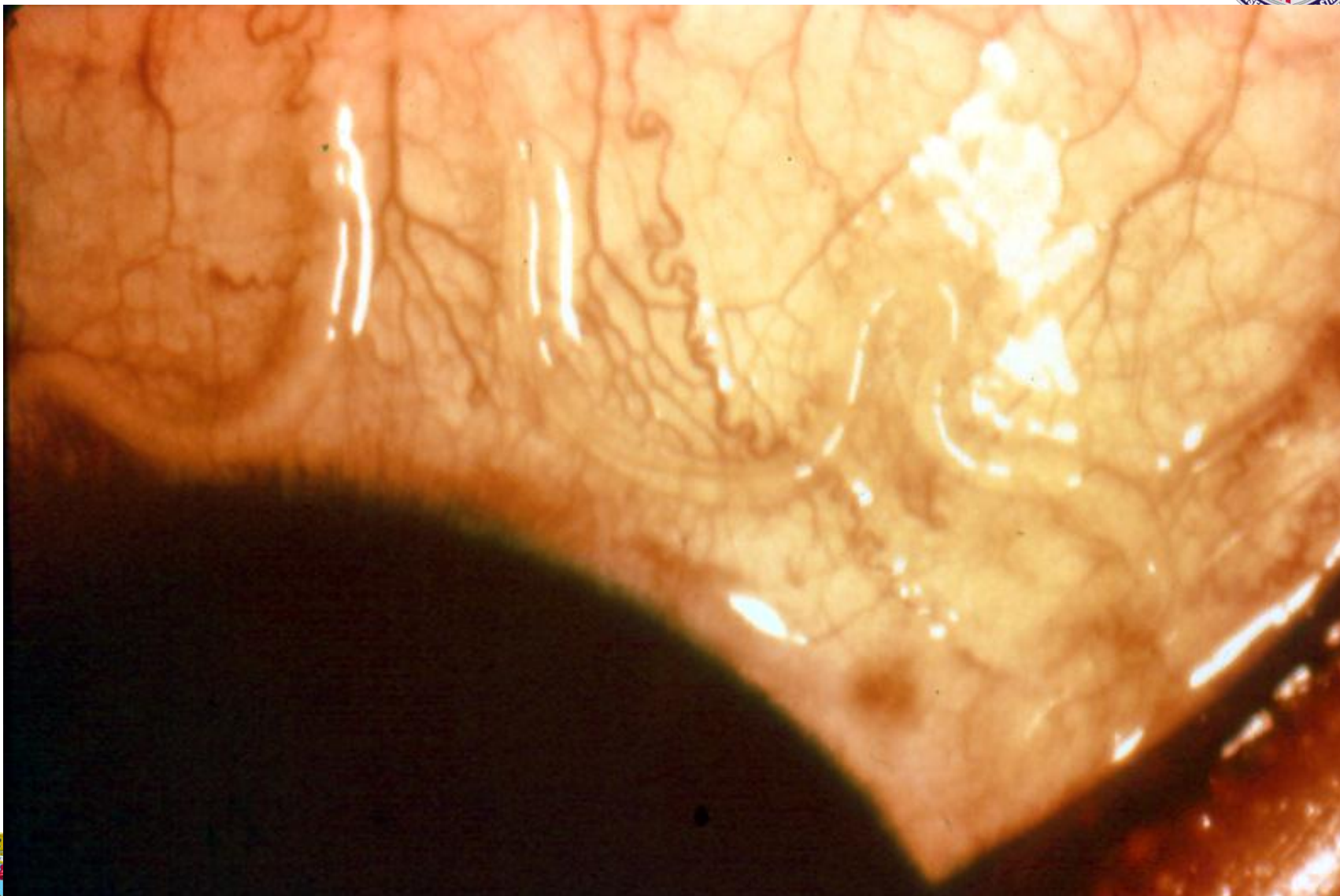
. . . and is being evaluated for
delusions of parasitosis



Loiasis – subcutaneous filariasis

Loa loa





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Loiasias - Tropical Swelling

- Found in west/central Africa
- First sign is painful subcutaneous swellings (calabar swellings)
- Transmitted by the mango fly
- Diethylcarbamazine kills adults and microfilariae and is given for 3 weeks

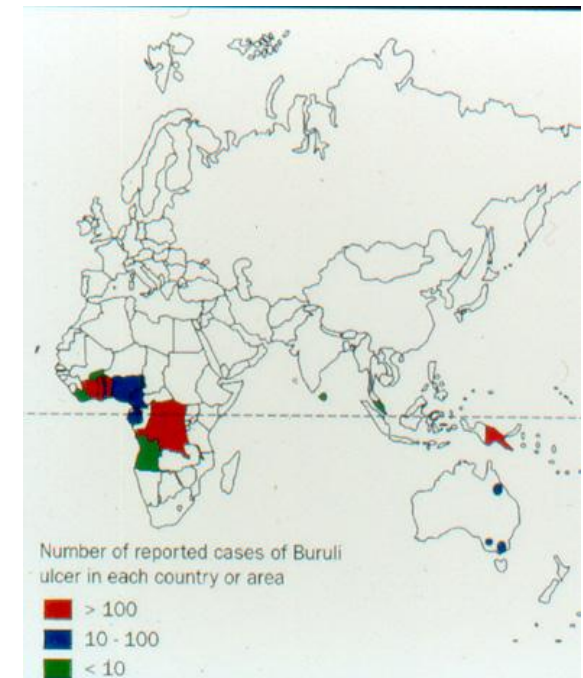


Children in Ghanaian village



Buruli Ulcer

- Caused by mycobacterium ulcerans
- Painless early nodule, late ulcer
- Produces toxin, little or no inflammation
- Treatment is wide, deep, excision



26 yo man recently discharged from military service, seen in a local clinic

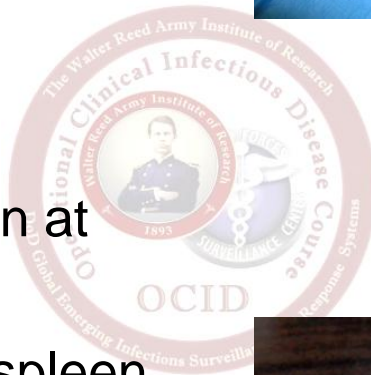
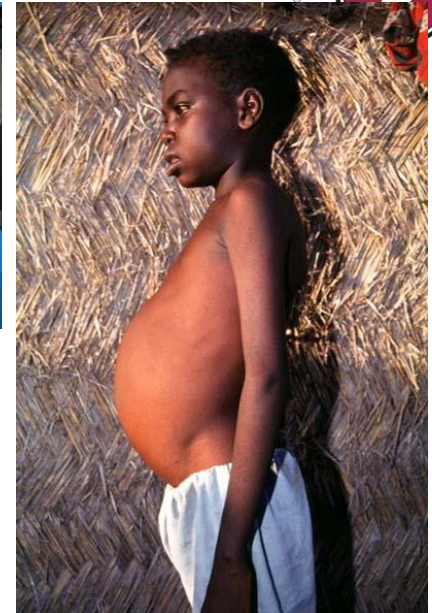


Leishmaniasis

A parasitic disease transmitted by sand flies.

Three main clinical forms

- **Cutaneous**: involves skin at the site of a sandfly bite
- **Visceral**: involves liver, spleen, and bone marrow
- **Mucocutaneous**: involves oro-nasal mucosa after recrudescence from a latent cutaneous lesion



Thank you





Common dermatology



Acne





Herpes Simplex Virus



Herpes Zoster



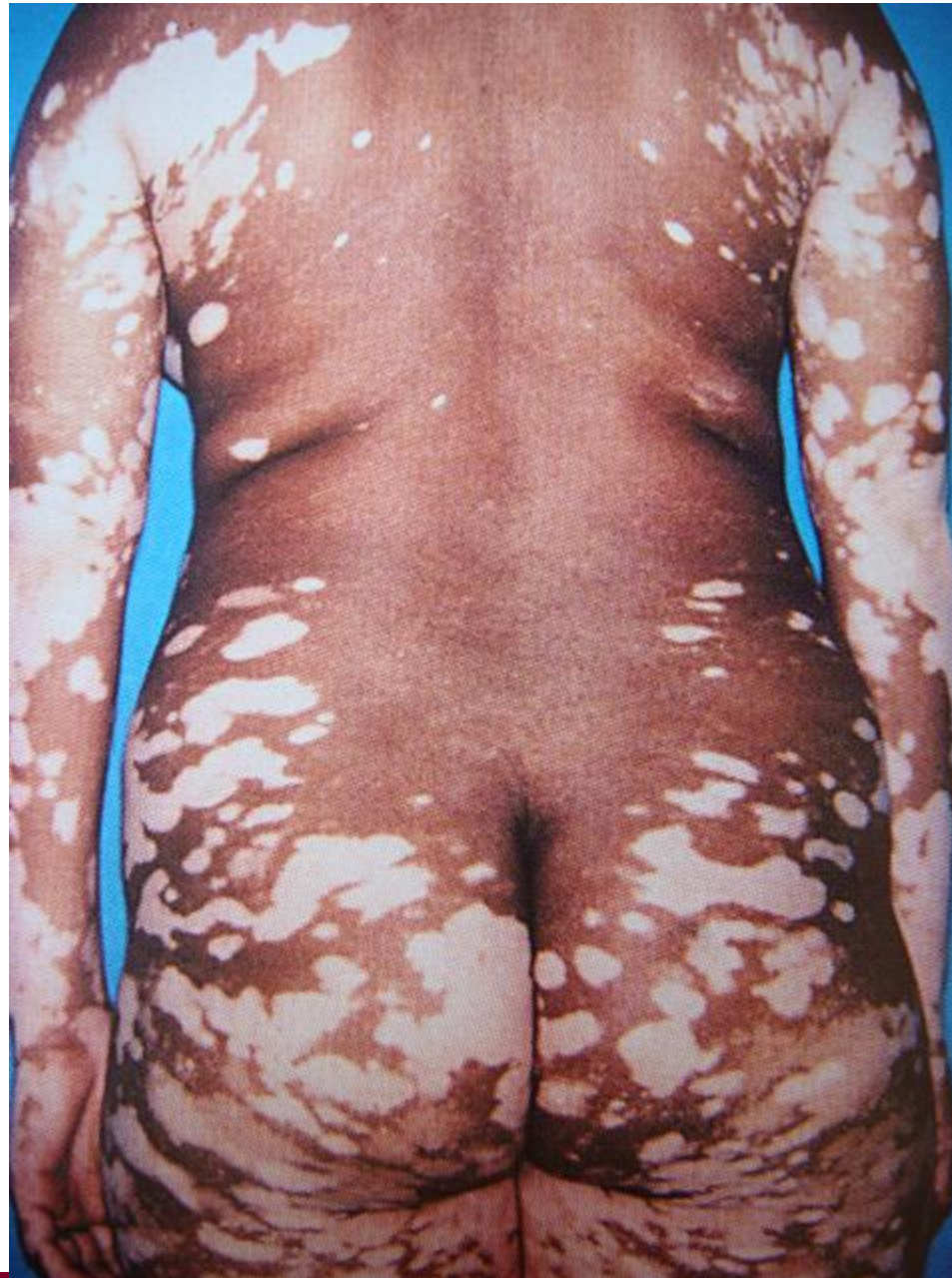
Psoriasis



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Vitiligo



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Warts



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Molluscum



Keloids



Prurigo nodules



Dermatitis





QUESTIONS?



Thank you

